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Lazarretos

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Past Senior President of the Royal Medical Society from his Valedictory Address to the Society

Abstract

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LAZARRETOS

An Outline of the Measures taken Against Epidemic Disease from Biblical Times
to the Ascent of Queen Victoria to the Throne (1837)

by

Dr. Edward Duvall, M.A., D. Phil., M.B., Ch.B.

Past Senior President of the Royal Medical Society from his
Valedictory Address to the Society

Tonight I would like to talk about Lazarettos. An alternative title might be "a historico-economic study in depth of socially accepted means of community behaviour and preventative disease containment in the ongoing epidemic enzootic disease situation", or more shortly – "To flee or not to flee". I would like to discuss the various attitudes and preventative measures taken by populations when they are threatened by an outbreak of an epidemic infection. By the way, for those of you who are still wondering what a "Lazaretto" is and have not found out where the dictionary is in the library – it is derived from the Italian word "Lazaretto" and is a house for the reception of the diseased poor, especially lepers. Lazar houses were a particularly popular means of controlling epidemic disease in the Middle Ages – but more of that anon.

The measures taken by any group against a sudden outbreak of disease obviously depend upon the current theory of its causation. Probably the first hypothesis explaining the universe was a magical one where anthropomorphic supernatural forces decided the sequence of events. According to this view epidemic disease was caused by a righteous and avenging God, or fickle and feckless deities. Thus, the rational approach to an epidemic was to placate the offended party, or parties. The spread of the twelfth plague of Egypt where the first born of the Egyptians and their cattle were killed was combated, in an attempt to appease Jehova, by allowing the Children of Israel to depart. Similarly, when the Philistines captured the Ark of the Covenant, they were

stricken by a lethal disease, characterised by an outbreak of "emerods in their secret parts". The "lords of the Philistines" and their "priests and diviners" sent back the Ark and compensation – or hush money of five golden emerods and five golden mice to the Israelites in an attempt to divert the wrath of God (with a singular lack of success). An emerod is said to be a haemorrhoid – the mind boggles at what a golden one looks like; other authorities claim that emerods are "buboes" and that the association with mice suggests the Philistines knew of the connection between plague and rats.

A similar belief in divine displeasure led to the rise of the Flagellant sect during the years 1348-50. The Flagellants were large bands of itinerant penitents who toured the countryside scourging themselves and performing other monstrous penances. Thus they took upon themselves the sins of the citizens of towns they passed that were threatened by the Black Death in exchange for board and lodging.

This belief that disease was a divine punishment persisted in a diluted form into the seventeenth century as the regulations issued during the outbreak of bubonic plague in London in 1629 had, along with quarantine instructions, ordinances to suppress such ungodly pastimes as stage plays, bear-baitings, tumbling, rope dancing, prize fencing, cock-fighting and bull baiting. The number of ale-houses was to be reduced and the rules preventing the sale and consumption of meat on fast days were strengthened.

In medieval times this belief in malignant

external influences was modified to throw the blame on unfavourable conjunctions of the planets. Guy de Chauliac thought that the plague of 1348 could be, in part, ascribed to the influence of Saturn, Jupiter and Mars in providing a favourable environment for the plague which, in cooperation with a patient's individual diathesis led to an outbreak of the disease.

The first attempts to postulate a physical cause for disease rather than a spiritual one were made by the Greeks. Hippocrates in "Airs, Waters, Places" expounded the doctrine that adverse winds and atmospheres might be responsible for disease. During the plague of Athens in 430 B.C. Thucydides describes the Athenians lighting fires to try and purify the air. They hedged their bets by supplicating their gods (in case Hippocrates was wrong). Empedocles and Acron (two physicians of the time) are credited by legend to have been able to control these bad winds. There is a possibility that they had the mountain passes through which the poisonous winds were blowing down onto Athens, blocked, as a public health measure, thus giving rise to this legend.

The theory that a miasma caused disease developed into the belief that bad smells would have the same effect. This idea was current in Anglo-Saxon England and was probably the basis for the numerous edicts issued during outbreaks of bubonic plague much later in London in 1349, 1629 and 1665 and in Edinburgh in 1585 to enforce the inhabitants of these cities to keep the streets free of the ubiquitous filth and to control trades such as fat rendering, tallow candle-making and fleshing which produced noisome smells. In London in 1665, for example, laystalls, i.e. middens, had to be made far from the city, unwholesome fish and flesh and musty corn was not to be sold and no hogs, dogs, cats, pigeons or ponies were to be kept in the city.

A last vestige of this belief in bad air was seen during the outbreak of yellow fever in Philadelphia in 1793 when the Town Major had to forbid the practice of lighting bonfires in the street to purify the air. He later had to ban the firing of guns which was also thought to have some effect upon the constitution of the atmosphere.

With these two theories of causation of disease — that either supernatural forces or climatic influences produced plagues there was little that a

civil authority could do when the community was threatened by an epidemic except pray and hope for a change in the wind. However, with the advent of the Black Death in the 1340's came the realisation that epidemic diseases were contagious and that measures might be taken to prevent the spread of the disease both to the community and within it. Boccaccio mentions that in Florence in 1348 it was recognised that attendants of bubonic plague victims could catch the disease from their patients and also from their fomites.

Once this was realised policies of isolation were instituted, primarily by the Italians who in the succeeding centuries were always at the forefront of sanitary organisation. (However much they may have slipped back lately). They developed the concept of quarantine and of a cordon sanitaire as protection against epidemic disease.

In 1404 the Council of Health of Venice opened the first quarantine station and lazaretto on the island of Santa Maria de Nazareth — two miles from the city. Here all people and goods arriving from the Orient (from whence the plague was believed to emanate) were confined for forty days. This period was apparently chosen rather arbitrarily as both Moses and Christ spent forty days in the wilderness. This method was widely adopted. In London a quarantine station for ships and their cargoes was set up on the lower reaches of the Thames in 1663 to stop the plague spreading from Amsterdam and Hamburg. Typically, Pepys complained that the 30 day isolation period could not strictly be called a quarantine. In Scotland a quarantine period of 15 days was chosen. This approaches the actual incubation time of bubonic plague which is at most 14 days. From the inauguration of the use of quarantine it was realised that consigned goods as well as the sick themselves might spread the disease. Cargoes were often fumigated with sulphur or vinegar or simply exposed to the air and sunshine for a time before they were admitted into a town. In the seventeenth century the Scots burghs had a regulation that any man who wanted to claim goods that came from a place where there was plague had to live with them and handle them for a set period of time to show that they were non-infectious.

The Italians built up an organisation which united the many warring states of the "geograph-

ical expression" that was Italy in an attempt to stop the spread of plague — especially during the years 1618 to 1659 when war and disease were both endemic. They had an elaborate system of health passes — first introduced in 1485 by the Venetians — as well as a swift system of communication between the Health Boards of each major town allowing each to close its frontiers against travellers and goods from any district where plague had been discovered. The normal practice was to establish a cordon sanitaire round the town rather than to seal off the town itself.

This system was rarely effective in stopping the spread of disease both because of inefficiency in enforcing any ban on travellers from a particular area and also because there was resistance from the influential mercantile interests of the towns to any admission of the presence of plague as this seriously affected their trade. A third reason was that in the case of bubonic plague the regulations only affected the movements of relatively inefficient vectors of the disease (man and his fleas) and not those of the primary vectors — the rat and the rat flea.

Once the pestilences had gained entry into a community then the reactions of the civic authorities were remarkably similar in Italy and Britain from 1350 or so to the 1660's. Regulations that all suspicious deaths were to be reported were first issued in 1374 by Visconte Bernabo of Reggio in Calabria. He devolved this responsibility onto the clergy and many communities followed suit, for example, Venice, in 1485 and Vienna in 1562. The London regulations of 1663 required the master of the house to give notice within two hours of persons complaining of blotch, purple, swelling or any other symptoms not assignable to another disease. In case the master of the house was not to be trusted to report plague, "searchers" were often appointed to go round the community and detect victims. In London, from 1532, these searchers, who were elderly and supposedly wise matrons (not medically qualified), provided the data for the parish clerks to compile the Bills of Mortality. These Bills analysed the causes of all deaths within the parishes of London and were intended to warn the Court and the nobility that London was becoming too unhealthy and that it was time to remove to Windsor or Oxford.

Once the existence of cases of epidemic disease (usually bubonic plague) was known then they and their contacts were usually sequestered. The first incidence of this was in Reggio in 1374 where regulations were issued that all those sick of the plague were to be taken out of the town into the fields to die or to recover. All those who had nursed the sick had to go into isolation for ten days before having contact with anyone afterwards. This harsh attitude towards the unfortunate sick persisted and is also seen in the proclamation of James IV in 1497 that those citizens of Edinburgh suffering from venereal disease (at that time an epidemic) should be exiled to the Inch (in the Firth of Forth) until cured. A more humane attitude eventually prevailed and two policies were adopted — sometimes both at once. The Italian solution (and that used in Edinburgh) was to provide pest houses or lazarettos outside the town to house the sick and their contacts whilst that adopted in London was to isolate both categories of people in their homes.

The Italian pest houses were sometimes custom built — often on a very large scale. That in Milan in 1630 held 15,000 patients and the Veronese one had 4,000 inmates. These lazarettos had separate divisions for the infected and their contacts. They also had attached convalescent homes as those recovering from the disease were recognised as infectious. The smaller towns requisitioned a building for a lazaretto when required. In Prato a monastery outside the town walls was taken over. Conditions in these pest houses must have been very unpleasant as in Prato there were five to a bed and shortages of food and other necessities. They did, however, have a staff of surgeons (physicians, being of a higher class, usually thought themselves too valuable to expose themselves to infection) and lay nurses — unlike the British lazar houses. In the smaller towns which could not afford large lazarettos the contacts of the sick were confined to their houses rather than also taken into the pest house and they were supplied with food by the municipal authorities.

In Edinburgh there was no permanent lazaretto established but "huts and ludges" were erected on various parts of the Burgh Muir when the need arose. This stretched from the present Royal Infirmary to Blackford Hill. In 1501 the town

council authorised the construction of St. Roch's chapel near the present Astley Ainslie Hospital and provided medical attendance there for any sick of the plague. In 1585 temporary hospitals were set up near the site of the Astley Ainslie Hospital and at the ruined convent of St. Catherine of Siena (to the south of the present Royal Hospital for Sick Children). "Cleansers and curers of the pest" were appointed by the town council to attend the sick at these hospitals. The pay was high for those who survived. Alex Fraynche was given a free house and a pension for life for being in charge of the staff. Later in the outbreak of 1585 the sick were segregated at Adam Purvis's Acre — to the west of the Astley Ainslie site and convalescent centres were set up at Morningside, Canaan and Greenhill.

A different approach was adopted in London. The first two pest houses were only set up in 1636, which was probably just as well as they had a mortality rate of 98%. The main measure to prevent the spread of infection was to seal up any house where there was plague with its occupants still inside. In 1583, 1606, 1629, 1663, 1665 and 1666 proclamations were made that plague stricken houses were to be shut up with their inmates for 40 days and a red cross and the inscription "Lord, have mercy upon us," painted on the door. Often guards were provided to see that no-one entered or left the house. This measure only helped to ensure the spread of plague throughout the inhabitants of the house. A classical example of the dangers of isolating a group of people together once one has contracted plague is that of the village of Eyam in Derbyshire. In 1665 the village was visited with the plague and the rector N. Mompesson persuaded the villagers not to flee. Their continued and maintained contact with the infected rats of Eyam led to the death of 75% of the human population.

With some of the populace immured in their homes and trade with the outside world stopped some form of poor relief was required to stop famine killing off more than the plague. Edinburgh in 1585 was the first city in Britain to institute this and an official was paid six pounds Scots a month to distribute bread and drink to the needy. The Italians and the burghers of London followed suit by providing a subsistence diet to those confined to their homes. The administration of

Prato also gave subsidies to those whose livelihood was directly effected by the plague and the measures taken against it.

Further methods to prevent the spread of infection apart from segregation of victims were usually used. In Prato the bedding of those who had died of the plague was destroyed with most of their possessions that were hairy or woolly as it was thought that the contagion adhered more readily to these objects than to shiny metal surfaces. Anything too valuable to destroy was disinfected. All those leaving the convalescent home were supplied with a fresh suit of clothing. Houses where plague had broken out were fumigated with sulphur, lime or vinegar and often replastered. In Edinburgh it was prohibited to wash the clothing of plague victims in the South Loch which was the main source of the city's water supply. One of the main duties of the cleansers in attendance at the pest houses on the Burgh Muir was to boil the clothes of the sick in a large iron cauldron provided. The badge of their office was the long cleek provided for this job.

A very common procedure was to ban all public assemblies especially those which might be construed as ungodly. In London, public gatherings, particularly at stage plays and other entertainments were banned. This served the double purpose of preventing contagion and reducing any likelihood of Divine wrath as an aetiological factor. Foreigners were frequently expelled, as in London in 1580 — perhaps because they were "Godless" and might also have come from a plague stricken place. The Jews in particular were given a rough time; many of them were slaughtered on the pretext that they had been poisoning the wells to produce disease or that they were spreading the plague by distributing pus from bubos. The reasons for this antisemitism are complex. The very presence of the Jews was probably regarded as a reason for Divine displeasure whilst they themselves were the only usurers and source of capital in the medieval economy and were for that reason hated by those who had to make use of them as bankers and moneylenders. A third reason is that the authorities may have whipped up pogroms against an easily recognisable subpopulation as scapegoats for the administration's own inability to counter

the plague.

Having outlined the administrative measures against epidemic disease taken in the fourteenth to the seventeenth centuries in Europe, let us examine the organisations which took them. The Italians, at the forefront of the fight against disease, had special bodies set up to deal with the problems. The first of these was in Venice in 1404 when a Council of Health, consisting of three noblemen was set up to decide upon policies to be used against bubonic plague. Venice was in the vanguard as it was one of the chief European ports trading with the Orient. Other Italian cities followed this example. I shall discuss the organisation in an Italian town by referring to the town of Prato in Tuscany (13 miles from Florence) mainly because some industrious Italian has written a book about it all. When Prato was threatened by plague the town council established a Health Board of four (later eight) laymen — usually gentlemen — to organise the fight against the disease. To advise the Board were the local college of physicians, the doctors of the district and health officers seconded from the capital, Florence. It is probable that expert advice was not often required as the measures taken to stop the movement of people and to run a pest house did not require any medical knowledge. To help supervise the Health Board employees — 25 for a population of about 17,000 — the Board chose a layman Provveditore della Sanita, one Christophano du Guilio Ceffini. Cristophano wrote that the duties of his post were to:

- (1) trust in God, the Virgin and the Saints,
- (2) disinfect with sulphur and perfumes, rooms and houses where there had been sickness and death,
- (3) segregate the sick,
- (4) burn fomites,
- (5) shut up houses where infected people had been and to quarantine the inmates for 22 days,
- (6) stop trade,

The city Health Board also thought that he should:

- (7) administer the pest house,
- (8) isolate contacts and pay subsidies to those who required them i.e. those who

were unable to earn a living because of the effects of the anti-plague regulations,

- (9) end quarantine on houses at the appropriate time as some people were keeping themselves shut up in their homes after the required time in order to collect the subsidy paid to the inhabitants of all closed houses,
- (10) enforce all Health Board decisions,
- (11) audit all the subsidy accounts,
- (12) supervise the workings of the public health service and ensure that the patients were treated well and that the dead were buried.

A tall order for a man paid the same wage as the municipal grave digger!

Thus the Italians had an organisation exclusively to deal with the situation. The central government formulated the policy to be taken — prevention of movement into an uninfected area or out of an infected one, separate segregation of the sick, the convalescent and the contact, a disinfection programme, subsidies to be paid to those effected by the plague. In the towns there were physicians and surgeons employed by the municipal authorities (not exclusively during epidemics) to treat those who could not otherwise have afforded medical care. In the countryside the local justices were instructed to popularise the current remedies against the plague if the populace had no access to a physician. The local government set up and paid for its own apparatus to carry out these policies with the help (or hindrance) of a Commissioner from the capital who reported back on the state of affairs.

This organisation should be compared with the contemporary situation in Edinburgh. Let us take the epidemic of bubonic plague of 1585 as an example. There the town council assumed full responsibility for coping with the situation. This was hindered at first because James VI's place-man as Provost, the Earl of Arran, decided that Edinburgh was altogether too unhealthy for him when he discovered plague was present and the council could only function once a new, less pusillanimous Provost was chosen. They then directly issued ordinances of very much the same import as those of the Italians. Pest houses with separate

accommodation for the infected and their contacts were to be set up on the Burgh Muir, a town surgeon, attendants for the pest house and an official to pay subsidies to the destitute were to be appointed and all public assemblies were to be banned. It is difficult at this late stage to compare the efficiency of the two systems — the specialised and the ad hoc but it is interesting to notice how the two different approaches led to a common solution.

One interesting facet of the story is the problem of the execution of the arrangements made. One difficulty encountered in both Edinburgh and Prato was the lack of money. It was very expensive to set up a pest house and to distribute even the bare minimum of food to keep alive those confined to their homes or unemployed because of the plague. It was doubly difficult to find the money because the town had no income from customs duties in Italy or from the working of public land in Edinburgh. Both administrations also could count on a smaller income from taxes because of the death or destitution of so many ratepayers.

A second difficulty which had to be faced, particularly in Italy was pressure from merchants to conceal the outbreak of plague or prematurely to declare the epidemic over, because of the effect on their trade. A very powerful aristocracy who complained to higher authority whenever a municipal decision interfered with their plans or their pleasure did not help matters either.

A third factor was the resistance of the populace to any public health measures. The penalties for disobedience of statutes and regulations on this subject were often capital. The regulations of Visconte Bernabo in 1374 stated that the clergy were to examine the sick. Any clergyman who did not report the presence of bubonic plague and anyone who ministered to the sick without permission was to be burnt at the stake and all their goods were forfeit. In Edinburgh every pest house had its own gallows and in 1585 two men were hanged for stealing infected clothes. Earlier in the century a number of women were judicially drowned for failing to report the presence of plague. In London, in 1636, health officers who failed to enforce the regulations were threatened with Newgate.

These draconian measures probably stemmed

both from the generally severe sentencing policy for trivial crimes in those days and from a desire to make the consequences of disobedience of the regulations more unpleasant than the results of obedience. It must have been very difficult to persuade people to admit to the presence of plague in their houses when the sick person would be carted off to a pest house with few comforts, little attention and even less of a chance of survival and his contacts would be immolated in their houses for a period without any means of earning a livelihood and having to survive, if they were lucky, on a meagre ration provided by the town.

A change of attitudes began to occur in the eighteenth century. This was heralded by the report commissioned from Richard Mead by the Secretary of State when there was a threat of the bubonic plague spreading to Britain from Marseilles in 1720. "A short discourse concerning pestilential contagion and the methods to be used to prevent it" ran to seven editions in the first year of publication and contained several revolutionary ideas. Firstly, it advocated that as plague was a disease of the poor who lived under dreadful conditions, if they were re-housed at public expense and their overcrowding reduced then there would be a less suitable environment in which the plague could spread. This was the first suggestion that a continuous measure should be taken against epidemic disease rather than the previously intermittent steps whenever a plague was imminent. Mead also put forward the idea that people should be encouraged to report the presence of plague by the payment of fees and the appointment of diligent and understanding men as searchers instead of old women. He thirdly suggested the appointment of officers of state (civil and ecclesiastical), magistrates, physicians and other responsible members of society to central Councils of Health to watch over the nation's wellbeing.

This advice was largely ignored for the next hundred years or so except that legislation to enforce his ideas on quarantine to contain bubonic plague and the removal of the sick to pest houses was passed only to be repealed by a different government a year later to make a petty political point.

The occasion of the adoption of Mead's ideas

was the cholera outbreak of 1831 which started in Sunderland. The response to the threat of cholera spreading to the rest of the country was similar to that seen in the previous five hundred years with the imposition of quarantine regulations and the segregation of the sick and convalescents. However a consultative Board of Health was set up with two non-medical and nine medical members. This board advised upon the measures to be taken. However this was soon supplanted by a central Board of Health with a ratio of lay to medically qualified members of two to one. This balance or imbalance may have been responsible for the definite change in policy manifest when this new body took over. The element of coercion was removed from the regulations and those groups at risk from the disease were identified by official inspectors. Measures to improve the nutrition and clothing of the lower classes and their temperance, the cleanliness, ventilation and space in their homes, and the methods of sewage disposal were taken.

At a local level, short lived Local Health Boards were set up to administer dispensaries and to educate the people to recognise the first symptoms of the cholera so that they would seek early treatment.

This change of emphasis from particular measures against a disease to the general was soon followed by a spate of horrific reports on the state of the working classes by Engels (1840), Chadwick (1842) and Littlejohn (1865) amongst others and the great public health movement, led by such as Sir John Simon, the latter half of the nineteenth century.

What brought about this change of attitude is not clear. Cynics and Marxists would say that manufacturers realised that a healthy working class worked better and was less likely to rise in rebellion than a semi-destitute one. Sir John

Simon thought that this change was due to the rise of humanitarianism in the eighteenth century and the influence of the Wesleys, Whitfield, Jeremy Bentham and John Howard. The truth probably lies somewhere between the two views.

Thus the history of the administrative measures taken against pestilence is a potted history of medicine as it reflects the medical dogmata of the time. The actions of civil authorities were appropriate to the supposed causal factors, be they supernatural intervention, the atmosphere or an invisible contagion. Usually they were not sure of the exact aetiology of epidemic disease and also took additional precautions which reflected previous but not entirely discredited ideas. It is also a brief history of administration and the development of local and central government and of specialised agencies. Thirdly it shows the development of man's feelings towards his fellow man. The medieval picture is one of a few selfless men, usually the humbler surgeons who were capable of working with the poor during an outbreak of an epidemic disease but of a much larger group of the merchantile, professional and monied classes who beat an undignified retreat whenever there was any threat. Then, throughout the eighteenth century the idea rose to the surface that the powerful had a responsibility to the powerless although there may have been some self-interest in that if the sinks of disease were removed there would be less change of pestilence overflowing from the slums into the drawing rooms. It was only when it was realised that trying to prevent a contagion entering a community where it would flourish was less efficacious than removing the factors which allow it to flourish that effective preventative measures could be implemented. The conquest of epidemic disease is more a success for humanitarianism than for therapeutics. ●●